

words used in a claim are deemed to have their ordinary and customary meaning in their normal usage in the field of the invention.” See *Anchor Wall Sysyms, Inc., v. Rockwood Retaining Walls, Inc. et al.*, Slip Op. 02-1592 (August 13, 2003) citing with affirmance *Toro Co. v. White Consol. Indus.*, 199 F.3d 1295, 1299 (Fed. Cir. 1999). In the present case, the “ordinary and customary meaning in their normal usage in the field of the invention” for the words solid state power source is an RF power source using transistors or other solid state devices to provide the RF signal power. Efthimion (cited with respect to the Office Action’s rejection of claim 2-20) provides evidence of the “customary meaning in their normal usage in the field of the invention,” as required by *Anchor Wall Sysyms, Inc., v. Rockwood Retaining Walls, Inc. et al.*, *id.*, for interpreting the meaning of the words “solid state power source.” Both Efthimion and the present invention are in the technical field of inventive endeavor of plasma emission spectroscopy. Efthimion clearly supports that the power source is an RF or microwave source, and not a battery and a resistor. Salah et al. is not in the field of inventive endeavor (it addresses lasers) and Salah et al. provides no evidentiary support for interpreting “solid state power source” to be a battery and resistor. Accordingly, the withdrawal of the rejection of claim 1 is earnestly solicited.

B. The Office Action rejects claims 2-20 under 35 U.S.C. §103(a) as being unpatentable over Efthimion in view of Saleh et al. This rejection is respectfully traversed.

The Office Action admits that the power source of Efthimion is not a solid state power source, but asserts instead that it “would have been obvious to one of ordinary skill in the art to use a solid state power source instead for the purpose of obtaining a robust power source so that the power source can last longer.” This assertion is respectfully traversed. The Office Action has failed to establish a *prima facie* case of obviousness.

1. The Office Action fails to apply any reference that teaches a motivation for combining the references as asserted. Bare assertions of motivation in an Office Action is not evidence.

The United States Supreme Court established the basic rules for analyzing the obviousness of a patent claim and articulated three factual inquiries to be made in an

obviousness determination. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). This analysis requires a factual inquiry into (1) the scope and content of the prior art, (2) the differences between the prior art and the claimed subject matter, and (3) the level of skill of a person of ordinary skill in the art at the time the invention was made. The M.P.E.P. instructs that “examiners should apply the test for patentability under 35 U.S.C. §103 set forth in *Graham*.” See M.P.E.P. 2141 through 2143.

The determination of obviousness under 35 U.S.C. §103(a) is a legal conclusion that must be based on factual evidence. *Burlington Indus., Inc. v. Quigg*, 822 F.2d 1581, 1584, 3 USPQ2d 1436, 1439 (Fed. Cir. 1987). The results of the factual inquires articulated in *Graham v. John Deere Co.* provide the factual basis upon which the legal conclusion of obviousness is to be based. This factual basis includes reasoned findings and substantial evidence supporting the reasoned findings. “[I]t is fundamental that rejections under 35 U.S.C. 103 must be based on evidence comprehended by the language of that section.” *In re Grasselli*, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). For example, substantial evidence of prior art might be identified in a prior art patent. Assertions of Patent Office personnel do not constitute evidence.

To establish a *prima facie* case of obviousness, the Patent and Trademark Office must demonstrate by substantial evidence that the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, contains some suggestion or incentive that would have motivated an ordinarily skilled person to modify the subject matter of a reference or combine the subject matters of the references to achieve the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). M.P.E.P. 2143.01 instructs that “Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” “[T]he central question is whether there is reason to combine references,” *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).” See M.P.E.P., section 2143.01, page 2100-98, Rev. 1, Feb. 2000, 7<sup>th</sup> Ed (emphasis in the original).

“[A] showing of a suggestion, teaching, or motivation to combine the prior art references is an ‘essential component of an obviousness holding’,” *Brown and Williamson Tobacco Corp. v. Phillip Morris Inc.*, 229 F.3d 1120, 1124-1125, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000). “[T]here must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant,” *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed Cir. 1998). “[T]eachings of references can be combined only if there is some suggestion or incentive to do so,” (emphasis in original), *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988).

Furthermore, motivation must be found with specificity. “[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention would have selected these components for combination in the manner claimed,” *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). “[E]ven when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious,” *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). The Patent Office can satisfy this burden of showing the obviousness of the combination “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references,” *In re Fitch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

Establishment of a suggestion or incentive to modify or combine prior art references requires substantial evidence of such suggestion or incentive. “The factual question of motivation is material to patentability, and could not be resolved on subjective belief of unknown authority,” *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002). Office Action assertions of such suggestion or motivation, without evidentiary support, is merely subjective belief and is insufficient to constitute substantial evidence upon which a legal conclusion can be based.

*In re Lee* describes a two fold requirement for the Board of Patent Appeals and Interferences to establish a motivation to modify. First, the Board must make reasoned findings of fact, based on evidence on record. Second, the Board must also explain the reasoning by which the findings are deemed to support the Board’s conclusion. It should be

noted that these are requirements imposed on decisions of the Board, not decisions of the examiner corps. However, the examiner corps must still make the record (e.g., applied art teaches ...) upon which the factual findings of motivation can be based.

2. Furthermore, the two references applied are not properly combinable since they are non-analogous art. They are non-analogous art at least because they in different fields of inventive endeavor and address different problems. Salah et al. is a reference in the field of laser endeavors. Efthimion is in the field of plasma emission spectrometry endeavors. Salah addresses the problem of amplifying light, and Efthimion addresses the problem of measuring metals in flue gases. Accordingly, the references are non-analogous.

3. Even if, *arugendo*, the references were properly combinable, Efthimion in view of Saleh et al. does not disclose a solid state power source for at least the same reasons as discussed above with respect to claim 1.

4. In addition, even if, *arugendo*, the references were properly combinable, Efthimion in view of Saleh et al. does not disclose a solid state power source. In particular, Efthimion discloses exciting oscillations in resonant cavity 12 with RF or microwave currents (in other words, alternating currents). If a battery and a resistor (from Salah et al.) were substituted for the RF source 34 of Efthimion, then the device of Efthimion would cease to function. Alternating fields at resonant frequencies in cavity 12 are needed to stimulate the plasma 18 in tube 42. A battery and a resistor would render the device of Efthimion unsatisfactory for its intended purpose. If a proposed modification would render the base reference unsatisfactory for its intended purpose, the motivation for the modification is contra indicated. “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).” See M.P.E.P., section 2143.01, page 2100-99, Rev. 1, Feb. 2000, 7<sup>th</sup> Ed (emphasis in the original).

5. Furthermore, with respect to claims 4 and 11 and claims dependent thereon, the Office Action has also failed to establish a *prima facie* case of obviousness. Efthimion in view of Saleh et al. does not disclose, teach or suggest that the plasma constitutes a fluctuating load on the solid state power supply and that the power level is substantially stable with respect to the fluctuation load as specified in claims 4, 11, and claims dependent thereon. Even though the Office Action asserts that “pressure fluctuation in the plasma creates a fluctuating impedance in the plasma source” and that “adding the absorbent reduces the pressure fluctuation, thus reducing the load fluctuation,” the Office Action fails to cite any evidence of this or any evidence of a motivation to make such a modification. As discussed above with respect to the rejections of claims 2-20, the factual inquiries set forth in *Graham* must be supported by evidence.

Furthermore, it is improper to use “that which the inventor taught against its teacher,” *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983). “Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.” *In re Dembicza*k, 175 F.3d 994, 994, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

6. Furthermore, with respect to claims 6 and 13, the Office Action has also failed to establish a *prima facie* case of obviousness. Efthimion in view of Saleh et al. does not disclose, teach or suggest a solid state power source that includes an oscillator coupled to a solid state power amplifier. Office Action admits that Efthimion does not disclose a solid state power source. Furthermore, Saleh et al. does not disclose a solid state power source that includes an oscillator coupled to a solid state power amplifier. Accordingly, even if, *arguendo*, these references were to be combined, the combination would not achieve a solid state power source that includes an oscillator coupled to a solid state power amplifier as specified in claims 6 and 13. As discussed above, it is improper to use “that which the inventor taught against its teacher,” *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-313 (Fed. Cir. 1983). “Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to

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combine prior art references." *In re Dembiczak*, 175 F.3d 994, 994, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

7. Accordingly, withdrawal of the rejection of claims 2-20 are earnestly solicited.

**CONCLUSION**

In view of the present remarks, withdrawal of the rejection of claims 1-20 is earnestly solicited. It is respectfully submitted that the present application is in condition for allowance. Prompt reconsideration and allowance of the application are earnestly solicited. Should the examiner believe that any further action is necessary to place the application in condition for allowance, the examiner is invited to contact the undersigned applicant representative at the telephone number listed below.

The Commissioner is hereby authorized to charge any fees (or credit any overpayment) associated with this communication to Deposit Account No. 50-1078.

Respectfully submitted,

**DORSEY & WHITNEY LLP**

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